

A Guide to Developing a TB Program Evaluation Plan

**Division of Tuberculosis Elimination
National Center for HIV, STD, and TB Prevention
Centers for Disease Control and Prevention**

How to Use This Guide

A good evaluation requires detailed planning. Program evaluation is an essential part of effective program development and implementation. Detailed planning prior to conducting evaluations will ensure successful execution of the evaluation that meets the standards of utility, feasibility, propriety and accuracy – ensuring that the time, energy and resources invested in evaluation will be worthwhile.

Writing an evaluation plan is an essential part of the planning process. An evaluation plan serves as a guide to conducting program evaluations. The plan should:

- ❖ Lay out a cohesive approach to conducting the evaluation and using the results
- ❖ Guide the evaluation by explaining what the activities are, when the activities should occur, how they will be accomplished, and who is responsible for completing them
- ❖ Document the process for all stakeholders
- ❖ Ensure implementation of the evaluation

This document is intended to help TB program staff develop and write an evaluation plan. It consists of a **template** for writing your evaluation plan, followed by detailed instructions and guidance for filling in each section, as well as a sample evaluation plan written for a program component in Appendix A. The detailed guide provide a framework for thinking about your own program. Following the suggestions along with completing the sections and tables, will result in a complete evaluation plan. Suggestions or examples that may help you complete each section are included. You can use these suggestions as they are, or as guidance to help identify information for your own plan.

An evaluation plan should contain each of the following sections. As you can see by the diagram in figure 1, the sections correspond to the Framework for Program Evaluation in Public Health (MMWR, 1999).

- ❖ Introduction
- ❖ Stakeholder Assessment
- ❖ Background and Description of the TB Program and Program Logic Model
- ❖ Focus of the Evaluation
- ❖ Gathering Credible Evidence: Data Collection
- ❖ Justifying Conclusions: Analysis and Interpretation
- ❖ Ensuring Use and Sharing Lessons Learned: Reporting and Dissemination
- ❖ Appendices

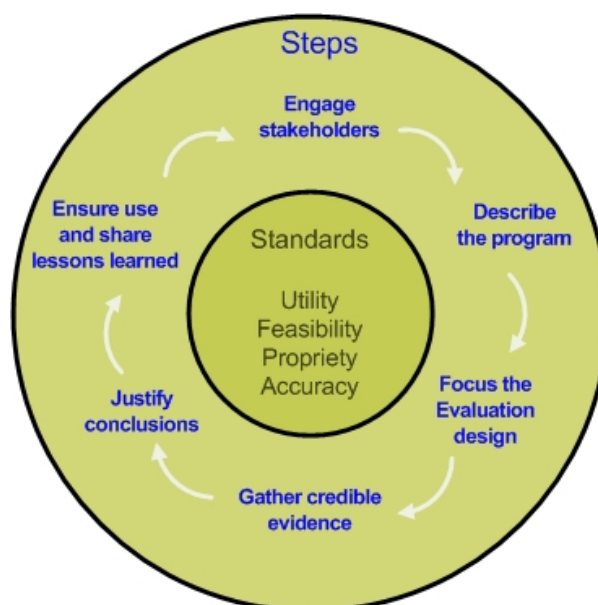


Figure 1: Framework for Program Evaluation

For additional information about how to conduct evaluation using the Framework please refer to www.cdc.gov/eval

Evaluation Plan Template



Use this **template** for writing your evaluation plan. Following this template are detailed instructions to guide you in developing your plan. If you need additional assistance, please contact tbewg@cdc.gov.

{State Program Name}

Evaluation Plan for *{Years covered}*

Prepared by:

{Names}
{Affiliation}

{Date}

INTRODUCTION

Evaluation Goal

What does this evaluation strive to achieve?

What is the purpose and use of this evaluation?

Evaluation Team

Lead Evaluator

Team Members

Evaluation Advisory Group (optional)

Table 1. Roles and Responsibilities of the Evaluation Team Members		
Individual	Title or Role	Responsibilities

I. STAKEHOLDER ASSESSMENT

Who are the stakeholders for the TB program?

What role do they have in the evaluation?

How do you plan to engage the stakeholders (i.e., conduit for coalition, advisory board, project teams)?

Table 2. Stakeholder Assessment and Engagement Plan			
Stakeholder Category	Interest or Perspective	Role in the Evaluation	How and When to Engage

II. BACKGROUND AND DESCRIPTION OF THE TB PROGRAM AND PROGRAM LOGIC MODEL

Need

Why is the program needed (i.e., magnitude, cause(s) and trends of the TB problem)?

Context

What context is the program operating under (i.e., environmental factors that may affect the initiative)?

Target Population

Who is the target population of this TB program?

Objectives

What are the program's objectives (SMART objectives)?

Stage of Program Development

What stage of development is the TB program currently in (i.e., planning, implementation, mature phase of the program)?

Resources/Inputs

What resources are available to the program in terms of staff, money, space, time, partnerships, etc.?

Activities

What activities are being undertaken (or planned) to achieve the outcomes?

Outputs

What products (i.e., materials, units of services delivered) are produced by your staff from the activities?

Outcomes

What are the program's intended outcomes (intended outcomes are short-term, mid-term, or long-term)?

Table 3. Program Description					
Resources	Activities		Outputs	Outcomes	
	Initial	Subsequent		Short-/Mid-term	Long-term

Logic Model

Provide a logic model of your program.

III. FOCUS OF THE EVALUATION**Stakeholder Needs**

Who will use the evaluation findings?

How will the findings be used?

What do they need to learn from the evaluation?

Evaluation Questions

What are your evaluation questions (include process driven or outcome driven evaluation questions)?

What do you want to learn from the evaluation?

Evaluation Design

Longitudinal data, points of comparison, multiple data sources, mixed methods

Resource Considerations

What resources are available to conduct the evaluation?

What data are you already collecting?

Evaluation Standards

How will you address the standards for effective evaluation - utility, feasibility, propriety, and accuracy?

IV. GATHERING CREDIBLE EVIDENCE: DATA COLLECTION**Indicators**

How will you measure success?

What are some of the measurable or observable elements that can tell you about your program and its effects?

Table 4. Indicators and Program Benchmark for Evaluation Questions		
Evaluation Question	Process and Outcome Indicators	Program Benchmark
1.		
2.		

Data Collection

What methods will you use to collect the data?

Where is the data?

How often will it be collected?

Who is responsible for collecting the data?

How will you manage and store the data?

Table 5. Data Collection Plan				
Indicator	Data Sources	Collection		
		Who	When	How

Plan Timeline

When will evaluation activities occur?

Table 6. Illustrative Timeline for Evaluation Activities				
Evaluation Activities	Timing of Activities for {Year}			
	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr

V. JUSTIFYING CONCLUSIONS: ANALYSIS AND INTERPRETATION

Analysis

What method will you use to analyze your data (quantitative or qualitative techniques)?

Table 7. Analysis Plan	
Data Analysis Technique	Responsible Person

Interpretation

*Who will you involve in drawing, interpreting and justifying conclusions?
What are your plans to involve them in this process?*

VI. ENSURING USE AND SHARING LESSONS LEARNED: REPORT & DISSEMINATION

Dissemination

*Who is your audience?
What medium do you plan to use to disseminate the evaluation findings to your audience?*

Table 8. Dissemination Plan		
Yes ✓	Dissemination Medium	Responsible Person

Use

*What are your plans for using evaluation findings?
How, where, and when will the findings be used?
Who will implement these findings?
How will you monitor your implementation plan?*

APPENDICES

Guide to Writing a TB Program Evaluation Plan

Introduction

- ✧ *The evaluation plan begins with an introduction that provides background information important to the evaluation such as the goal of the evaluation and those who will be involved in the evaluation process. This section helps to identify the purpose of the document, and provide a roadmap of the document to the reader.*

Evaluation Goal

A goal is an overarching statement of desire that explains why the evaluation is taking place. Examples of evaluation goals include:

- ❖ To determine the effectiveness of the program
- ❖ To assess the achievement and progress toward reaching program objectives
- ❖ To investigate portions of the program that are performing optimally so that they can be replicated
- ❖ To help equitably redistribute resources

Your evaluation plan should include a statement of the goal(s) and the purpose of the evaluation, addressing how the evaluation and its findings will be used.

Evaluation Team

Sound evaluation requires teamwork. This section provides guidance on how to select your team and specifies each team member's roles and responsibilities. Each team should have a leader or coordinator who is responsible for ensuring the evaluation is conducted as planned. In addition, evaluation teams will often have members who are responsible for carrying out the various activities of the evaluation. More comprehensive evaluations may also have an advisory group that can act as a guidance body, a sounding board, or provide technical experts for portions of the evaluation.

In this section, identify your evaluation leader and specify his/her roles and responsibilities that may include....

- ❖ Oversight of all evaluation activities
- ❖ Coordinator of meetings for the evaluation team or advisory group
- ❖ Principal analyst of the evaluation data
- ❖ Primary author of the evaluation plan or reports
- ❖ Point person for the dissemination of evaluation reports and materials

Identify other members on your evaluation team and specify their evaluation responsibilities. Evaluation team members can include...

- ❖ Individuals responsible for some aspect of data collection or data analysis
- ❖ Individuals responsible for dissemination and use of the findings
- ❖ Members of the evaluation planning committee

Your evaluation team may include people who may or may not have prior knowledge of evaluation. These people include your program manager, nurses, epidemiologists,

representatives from partner agencies, or others. You may need to teach them some basic evaluation concepts. Resources are available to assist you by contacting DTBE at TBEWG@cdc.gov

Use table 1 to help you identify the members of your evaluation team and what role they will play. Table 1 can be inserted into your evaluation plan or can be rewritten as text.

Table 1. Roles and Responsibilities of the Evaluation Team Members		
Individual	Title or Role	Responsibilities

The Evaluation Advisory Group (optional)

The evaluation advisory group is an optional component of your evaluation's operation but it can provide important functions such as....

- ❖ Technical expertise not otherwise found in your evaluation team or your program
- ❖ An objective viewpoint in the event of disputes
- ❖ Representation for funders or other stakeholders
- ❖ Interpretation of findings and justifying evaluation conclusions
- ❖ A means of disseminating your evaluation reports outside of your program

Stakeholder Assessment

- ✂ *Stakeholders are people with vested interests in the program and are potentially affected by evaluations. Engaging stakeholders in your evaluation is beneficial for several reasons. Their involvement increases the credibility of your evaluation and they may hold an important viewpoint as someone: a) responsible for day-to-day implementation of your program; b) able to advocate for your program; or c) able to authorize funding or changes to your program. Stakeholders can be divided into 3 major categories: 1. those involved in program operations, 2. those served or affected by the program, and 3. the primary users of evaluation. The level of involvement of stakeholders will vary among different program evaluations, but priority stakeholders include those who can increase the credibility of the evaluation efforts, are involved in the implementation of the program activities, will advocate or authorize changes to the program, or will fund or authorize improvements to the program.*

The lists below will help you think about who the stakeholders for your evaluation might include. Depending on the context of your program, categories of stakeholders appropriate for engagement and their levels of involvement may vary widely. While you may already know your program stakeholders well, you will need to reconsider their perspectives in regard to program evaluation. Use worksheet 1 to check which group of stakeholders may have an interest in your evaluation. This list includes suggestions, but you can also identify other stakeholders who are not on this list.

Worksheet 1. Categories of Stakeholders	
Yes ✓	
	Program managers
	Program staff
	Outreach workers
	Nurses
	Clinicians
	Program administrators
	Health department administrators
	Patients
	Foreign-born community
	Community members
	Community-based organizations
	Community planning board
	Business community
	Policy makers
	Health care providers
	Schools and universities
	Other:

For each stakeholder you have identified, consider:

- ❖ What is their interest in or perspective on the program and the evaluation?
- ❖ What is their role in the evaluation?
- ❖ How and when will they be engaged in the evaluation?

The lists below offer some answers to each of these questions. These may or may not apply to your stakeholders. However, by considering these factors, you may be able to anticipate some issues that may arise during the evaluation process or later, when trying to implement the findings.

❖ What is their interest in or perspective on the TB program and the evaluation?	❖ What is their role in the evaluation?	❖ How and when will they be engaged in the evaluation?
<ul style="list-style-type: none"> • Defensive of current system • Fear program alteration & job loss • Fear increase in workload • See program evaluation as a personal judgment • Fear or reject health system • Need for services • Concerns about immigration status • Partnership capacity • Community image • Proof of effects for funding and program expansion purposes • Community health among underserved population • Interest in self-improvements and the improvements of the program 	<ul style="list-style-type: none"> • Define health problem • Define problem in program from staff perspective • Define problem in program from client perspective • Define program processes • Develop or review data collection tools • Provide community context • Provide operational context • Providing administrative and funding context • Identify stakeholders • Identify data sources • Collect data • Interpret findings • Disseminate findings within program • Disseminate findings to community audiences • Disseminate findings to agency leaders and funding agencies 	<ul style="list-style-type: none"> • Formal Interview • Informal Interview • Focus group • Meeting • Advisory committee • External Reviewer • Data collector • Participant • Information only

In table 2 below, list the stakeholders that you have identified and fill in: their interest or perspective, their role in the evaluation, and how and when you will engage them. After completing table 2, it can be inserted into your evaluation plan with some explanatory text.

Often, the roles of stakeholders will change during an evaluation. You may need to revise your plan several times as changes occur.

Table 2. Stakeholder Assessment and Engagement Plan			
Stakeholder Category	Interest or Perspective on Evaluation	Role in the Evaluation	How and When to Engage

Background and Description of the TB Program

- ✧ *The purpose of this section is to describe your TB program. The program description will ensure that all evaluation stakeholders have a shared understanding of your TB program's objectives, activities, and outputs. It will also identify any unfounded assumptions or logical gaps in your evaluation planning. Once completed, the program description will lead naturally into your program's logic model.*

Need

The need for your program can be addressed by considering a series of questions. Your answers to these questions will help you develop the plan for this section.

1. What problem does or should your program address (e.g., TB incidence among immigrant population is rising, patients not adherence to treatment plan)?
2. What causes the problem (e.g., persons from high TB incidence countries arriving in state, these persons are not being reached for TB and LTBI treatment; cultural/language barriers)?
3. What are the consequences of the problem (e.g., treatment costs rise, morbidity, ill-health, backlash against the foreign-born population)?
4. What is the magnitude of the problem (e.g., there exists a potential for a large problem, but acting now may reduce this potential)?
5. What changes or trends are occurring (e.g., TB incidence is increasing, demographic patterns are changing, decrease in completion of therapy rate)?

Context

Context considers the environment that affects your TB program's operations. These factors can include

- ❖ How the TB program collaborates and coordinates with other health and social services in the community, such as hospitals, schools, HIV service programs, and programs that provide housing and food support.
- ❖ How the program is funded – does it compete for resources with other public health programs within the community?
- ❖ Organization's structural factors (i.e., personnel, training, administrative regulations) that impact your program's operations
- ❖ Policy and political environment surrounding your program
- ❖ Community perceptions of TB as a disease

Consider and explain the contextual factors in your evaluation plan as necessary.

Target Population

This section describes the group that your TB program targets in addressing the concerns. For example,

- ❖ Newly arrived immigrants
- ❖ Homeless persons
- ❖ People who are HIV infected
- ❖ People who abuse substances
- ❖ People living in congregate settings (e.g., low-income, institutions, prisons)

Objectives

Your statement of program objectives should refer back to your program's goal(s). Objectives should be established that support this goal. Your program's objectives are frequently national or state TB objectives, however, your program may also have its own objectives. If your objectives are not established, it is an important part of your plan to do this now.

If you choose to write your own objectives, be sure that they are *S-M-A-R-T: specific, measurable, achievable, relevant, and time-bound*. Detailed explanations and examples of SMART objectives can be found in the Appendix B.

Text Example

Goal: To eliminate TB in the community and improve quality of life.

In order to achieve this overarching goal, 4 program objectives were identified.

1. Increase percentage of patients identified with TB who are placed on DOT within 1 month of diagnosis from 85% to 90% by January 2006.
2. Increase percentage of TB patients who utilize case management services from 60% to 70% by Fall 2006.
3. Increase the number of referrals to the local health department made by community health centers from 100 to 150 by Fall 2006.
4. Increase percentage of community members who understand how TB transmitted from 20% to 40% by Fall 2005.

Stage of Program Development

Assessing the developmental stage of your program will help you frame your evaluation and write your evaluation questions. The stage of development may also vary among the different program components that carry out specific program activities. Consider carefully how long the program has been in existence and what stage is each one of your program components/activities in?

- ❖ Needs assessment
- ❖ Design and planning
- ❖ Implementation: early (e.g., less than a year) or middle?
- ❖ Well-established implementation (e.g., 13 years)

Stage of development will also help you to decide on process evaluation, outcome evaluation, or both.

Resources/Inputs

This section describes all of the resources available to implement your program. This can include (but is not limited to)

- ❖ TB program staff
- ❖ Training and continuing education staff
- ❖ Funding
- ❖ Physical or structural components (space, testing facilities)
- ❖ Infrastructure resources that are part of the health department
- ❖ Partner organizations

To complete this section, make a list of all the resources available to your program in table 3 below.

Activities

Activities describe what your program is doing to accomplish objectives. These can include

- ❖ Hiring and training new staff
- ❖ Policy development or revision
- ❖ Providing targeted TB testing to specific high-risk populations
- ❖ Identifying persons with latent TB infection or active TB disease
- ❖ Administering DOT
- ❖ Educating patients or community members
- ❖ Providing laboratory and diagnostic services
- ❖ Surveillance
- ❖ Managing clinic operation
- ❖ Providing technical assistance

To complete this section, make a list of all the activities undertaken by your program in table 3 below. Note that activities can be grouped as initial and subsequent activities. Although most activities in TB programs are ongoing, some activities may need to be done before others. For example, diagnosis of TB disease may come prior to prescribing a treatment to treat the disease.

Outputs

These are the immediate materials, services, and capacities that are a direct product of your programmatic activities and processes. Examples include

- ❖ A strategic plan for your program
- ❖ TB Tests conducted
- ❖ Providers educated about TB
- ❖ Education sessions presented to community groups

Outputs are assessed to “show” that the program is being implemented as planned. However, they are not indications of effectiveness. For example, we can record that 10 educational

sessions were conducted or that 50 skin tests were administered, but there's no direct indication whether people have learned or acted on the results of their tests. In short, outputs show what work was done by our staff, but do not indicate that changes have taken place or resulted due to these actions. To identify your programs outputs, consider each activity you listed in table 3 and list corresponding outputs in the column to the right of your activities. For example, the output "TB test conducted" corresponds to the activity, "providing TB testing." The activity, "administering DOT" corresponds to the output, "DOT administered or patients received DOT."

Outcomes

Outcomes are the intended effects of the program's activities. They may or may not have been achieved by your program. They are the changes you want to occur in patients, providers, or the community, because of the work of your TB program. These are typically thought of as short-, mid- or long-term outcomes and should be tied to your program objectives. Some examples are...

- ❖ Patients' knowledge is increased
- ❖ Patients accept treatment for TB and LTBI
- ❖ Patients identify contacts
- ❖ Patients on appropriate treatment
- ❖ Patients adhere to treatment
- ❖ Timely completion of treatment
- ❖ Reduced hospital admissions for TB
- ❖ Reduced transmission of TB

Some of the important changes we want to occur, however, are less direct or easy to measure. For example we may want:

- ❖ Trust built within the community
- ❖ Patients identify all of their close contacts
- ❖ Stigma about TB reduced
- ❖ Improved patient quality of life
- ❖ Patients are healthier overall

For these outcomes, "proxy" or indirect measures can be used to assess whether they have been achieved. Often, program staff may be able to suggest ways to measure these effects. For example, an outreach worker may "know" trust is built when a community member approaches him with a question about TB. A nurse may "know" stigma is reduced when a patient talks openly in front of a friend. These types of information can be incorporated and used in the evaluation. See page 26 for more information on using "proxy" measures in evaluation.

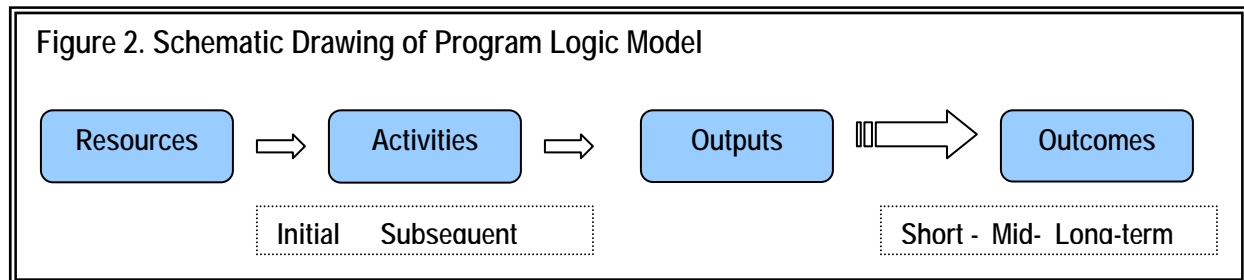
To identify your program outcomes, consider the activities and outputs you listed in table 3 and list corresponding outcomes in the column to the right. Once completed, table 3 can be included in your evaluation plan as part of the program description.

Table 3. Program Description

[illegible]

Program Logic Model

- ✧ A logic model is a graphic depiction of the program. The arrows describe the links between inputs/resources, activities, outputs and outcomes as illustrated by figure 2 below. Using the resources, activities, outputs, and outcomes identified in the project description (table 3), you can now develop a logic model for your program.



Drawing a logic model during the evaluation planning process is important to define the associations among program resources, activities, and its results. For the evaluation, a logic model provides:

- ❖ A sense of scope – what are the program’s components? How are they interconnected?
- ❖ A “map” to help ensure that systematic decisions are made about what is to be measured in the evaluation process and to identify areas where clarification may be needed.
- ❖ A framework for organizing indicators and for ensuring that none are overlooked

- ✧ Logic models for high priority TB program activities have been developed and are available as examples. It may be useful to review these models prior to developing your own to see if one of these logic models can be used to describe your program with minor modifications. The six TB logic models and their corresponding goals are (See Appendix C):

- ❖ **Meta-model for TB Elimination**
Eliminate TB in the United States.
- ❖ **Capacity and Infrastructure to Eliminate TB**
Develop capacity and infrastructure TB elimination.
- ❖ **Evaluation Capacity Building**
Promote and enhance active program monitoring and self-evaluation among TB control partners at each administrative level.
- ❖ **Completion of Therapy**
Complete TB treatment among person with TB disease within 12 months of diagnosis.
- ❖ **Prevent TB in High Risk Populations**
Prevent TB among high-risk populations.
(through targeted testing and treatment)

❖ **Contact Investigation**

Prevent TB among contacts to cases.

(by finding and testing contacts for TB and LTBI, and then treat infected contacts to completion)

After creating or adapting the logic model that best depicts your program, include it in your evaluation plan. There are no “right” or “wrong” logic models, but the logic model must clearly show the complete paths linking inputs and activities to outcomes. You will probably need to review and revise your logic model many times throughout the evaluation.

Note that you can use a table format or a graphic (hand drawn is acceptable) for the logic model. Attach this to your evaluation plan.

Focus of the Evaluation

- ✂ *Although the logic model may inspire many evaluation questions, it may not be feasible or useful to evaluate every element or path in your logic model. Thus, focusing your evaluation and selecting your evaluation questions are important steps. Focus will also ensure that the evaluation meets the needs of stakeholders and that the findings will be used as intended.*

Stakeholder Needs

Your answers to the following questions will help you focus your evaluation by identifying what your stakeholders need to learn from the evaluation – the evaluation questions.

- ❖ Who will use the evaluation findings?
- ❖ How will the findings be used?
- ❖ What do they need to learn from the evaluation?

The worksheet below will help you think about possible answers to these questions. Check who will use the evaluation findings, how the findings will be used and what they need to learn from the evaluation. The list includes sample answers to the questions. You may come up with different answers on your own.

Worksheet 2. Questions to Focus the Evaluation	
Yes ✓	Who will use the evaluation findings?
	State/county health department staff
	Program managers
	Funders
	Community-based organizations
	Community members
	State/county legislators or policy makers
	Other:
Yes ✓	How will the findings be used?
	Implement changes to the program to increase effectiveness
	Determine future funding level
	Determine or reallocate resources
	Advocate for the program in the community
	Modify/implement staff training
	Other:
Yes ✓	What do they need to learn from the evaluation?
	Discover whether the program is meeting its objectives
	Determine effectiveness of program components
	Identify problem areas in implementing the program
	Demonstrate the program's effectiveness
	Other:

Evaluation Questions

There are two basic types of evaluation questions:

Process questions, which focus on examining the implementation of the program,

Are the activities we planned being implemented?

Are we producing the outcomes we expect?

Are we using our inputs and resources effectively?

Outcome evaluation focuses on showing whether or not a program achieves the desired changes in patients, providers, or the community.

Using your assessment of who will use the findings and how the findings will be used, identify key evaluation questions based on your logic model.

The sample evaluation questions are shown below. These questions are based on the logic model shown in figure 3.

Sample Evaluation Questions

Process questions:

1. Are there sufficient resources to carry out the activities of our program?
2. Are contacts identified in the timeframe set by our procedures?
3. Have community partners been engaged to collaborate with us to prevent TB in high-risk populations?

Outcome questions:

1. Are infected contacts who started treatment for LTBI completed treatment?
2. How did the program contribute to the decrease of TB transmission rate?
3. To what degree was the program able to reduce the prevalence of LTBI?

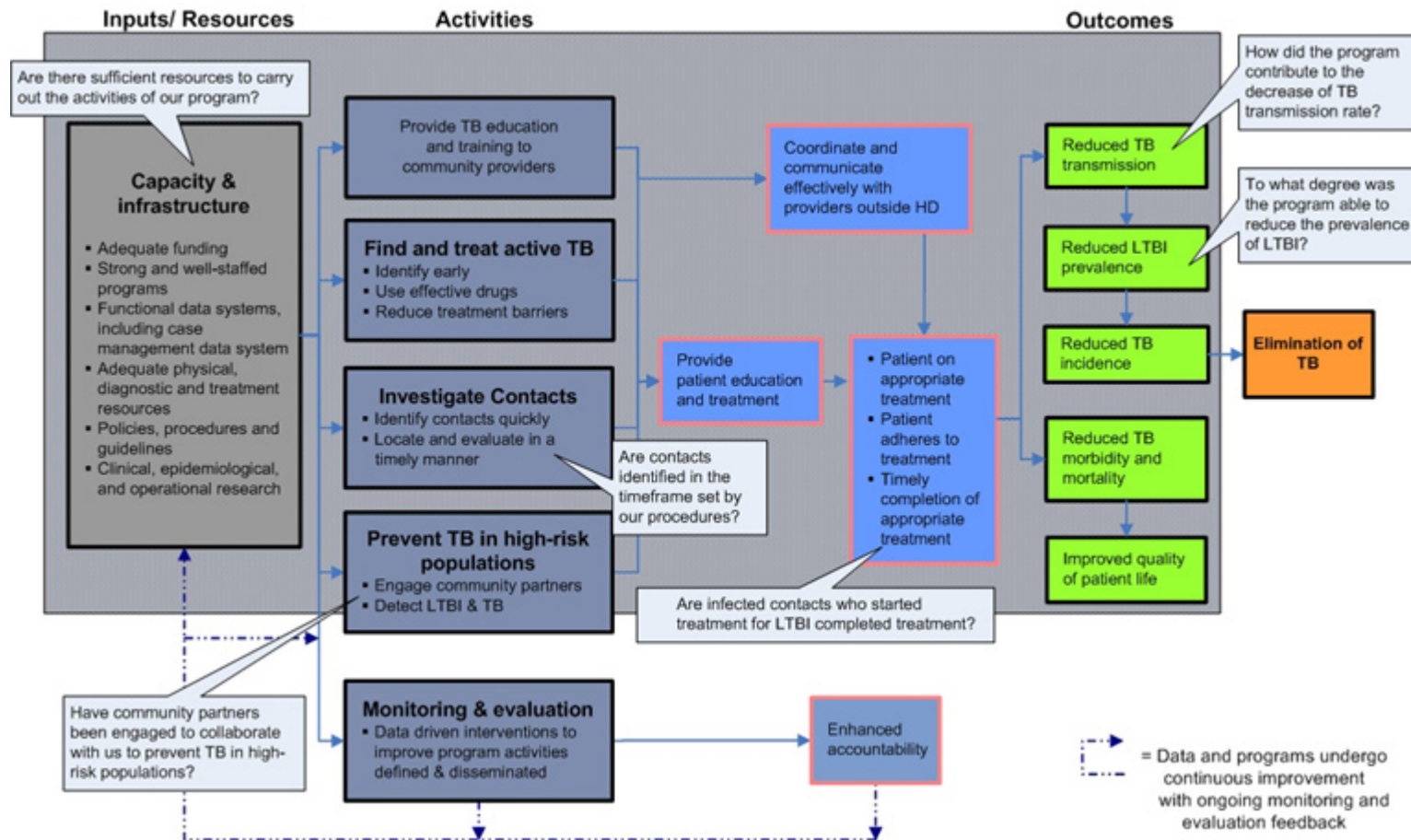


Figure 3

From the long list of questions that can be generated, you will need to select your 3-5 highest priority evaluation questions. Questions should reflect both process and outcomes. However, these questions are still preliminary pending the considerations of the data needs of your evaluation questions. Not only should the evaluation serve the needs of the stakeholders, but it should be feasible and produce accurate findings. Depending on the resources and time available for your evaluation, only a few evaluation questions can be assessed.

After selecting a few evaluation questions from your highest priority questions, these questions will dictate your evaluation design and data collection methods. In this section of your evaluation plan, state what questions will be addressed with this evaluation.

Evaluation Design

Although program evaluation questions are geared to answering specific questions for specific programs, the designs for answering them often resemble research designs. However, it is important to remember that the purpose of evaluation is to improve programs, not to publish generalizable findings, and therefore you need only collect data sufficient to answer your evaluation questions.

Key issues you need to decide about evaluation design are:

- Will you have a control or comparison group?
- Will you measure before and after or only after?
- Will you collect data prospectively or retrospectively?
- Do you need in-depth, detailed information about the question(s) (qualitative information), or specific, targeted information (quantitative information)?

Resource Considerations

- ❖ What resources are available to conduct the evaluation (e.g., staff time for members of the evaluation team, data collection, funds to hire evaluators, space to house evaluators or evaluation data)?
- ❖ What data do you already have or are already collecting for another purpose that may be useful for the evaluation? What data do you need?

Additional considerations that are helpful in selecting your design:

- ❖ **Standards of “good” evaluation.** You will want to select a design that provides useful information to improve the TB program, and is feasible such that it is not overly disruptive of daily operations. In addition, the design that is selected should produce accurate findings given the program’s operations and the resources available for the evaluation.
- ❖ **Timeliness.** When do decisions need to be made about the program?
- ❖ **Stage of program development.** For a newly developed component/activity, process evaluation helps us understand what we need to do in order to enhance the program. In a well established program, the addition of outcome evaluation may serve to help identify program’s performance and effectiveness.

Consider strengthening your design by

- ❖ Mix methods when appropriate such as combining interviews and chart reviews.
- ❖ Use repeated measures
- ❖ Triangulate (use multiple and varied data sources to draw conclusions)

Gathering Credible Evidence: Data Collection

✂ *This section provides information about how you will conduct the evaluation. It includes the indicators you will use to determine program success, program targets that will serve as benchmarks to evaluate performance against, data collection methods and tools, and a timeline for data collection activities.*

Indicators

Indicators are measurable signs of a program's performance. Good indicators are relevant, understandable, and useful. Indicators are tied to the objectives identified in the program description, the logic model and/or the evaluation questions. A library of indicators that can be used by TB programs has been developed. A sample list of indicators is provided in Appendix D. Many of these will be useful in your evaluation design. Note that these are a mix of process indicators that measure implementation activities as well as outcome indicators. However, if you choose to write your own indicators, tie your indicators to a S-M-A-R-T objective as described below in worksheet 3. Use Table 4 to record your indicators and tie them to evaluation questions.

Worksheet 3. Creating Indicators from S-M-A-R-T Objectives

Objective	Increase percentage of adult patients with non-resistant TB who completed therapy (within 12 mos.) from 80% to 90% by 2006.						
Breakdown	VERB	METRIC	POPULATION	OBJECT	BASELINE MEASURE	GOAL MEASURE	TIMEFRAME
	Increase	Percent	Adult patients with non-resistant TB	Completion of therapy (w/in 12 mos.)	80%	90%	By 2006



Breakdown	VERB	METRIC	POPULATION	OBJECT	BASELINE MEASURE	GOAL MEASURE	TIMEFRAME
	Increase	Percent	Adult patients with non-resistant TB	Completion of therapy (w/in 12 mos.)	80%	90%	By 2006
Indicator	Percent of adult patients with non-resistant TB who completed therapy (within 12 mos.) in 2006.						

When your evaluation questions do not draw on existing program objectives, a similar strategy can be used to develop indicators. Keeping in mind that indicators are visible and measurable signs of change, identify some observable manifestations of the concept, using proxy measures as appropriate, and state them in the proposed fashion (including terms for metric, population, object and timeframe as suggested in worksheet 3).

Evaluation Question	Possible manifestations... → Indicators
Have Spanish-speaking persons been treated appropriately for LTBI or TB?	Visit of Spanish-speaking patients to the clinic
	Number of Spanish-speaking persons treated by clinic for TB & LTBI between Jan – June.
	Whether or not clinical treatment standards have been met may indicate whether treatment are administered appropriately
	Number of times clinical treatment standards are met for Spanish-speaking patients
	Forms and signs in Spanish and accessible to the low literate may indicate the effort to implement appropriate treatment
	Percent of time that signs and forms are available in Spanish and written for persons with low-literacy skills
	Presence of Spanish-speaking staff may indicate presence of communication and likelihood of appropriate treatment
	Percent of time that Spanish-speaking staff are present in clinic
	Knowledge of how to access translator services may indicate proper implementation of staff training
	Percentage of clerks/staff who know how to access translators or certified interpreters
	Respect is the basis of all care and treatment
	Percent of patients who report being treated respectfully

Program Benchmarks or Targets

Program Benchmarks or targets are what the stakeholders of the TB programs consider to be “reasonable expectations” for the program. In thinking about the program benchmarks, it is important to think about what “success” means. How do you measure success? What does it mean if the program is successful or effective? These standards that programs have set for themselves will be used as the benchmark against which you will evaluate your program’s performance. The overarching program benchmarks or targets are usually established when the management team formalizes the program objectives and sets the goal(s) for the program. Standards or targets may not exist that relate to all of your evaluation questions, but many standards are implicit in a program’s strategic plans, TB National Guidelines, and treatment protocols. Stakeholders can also help you set program standards. The example below illustrates how evaluation questions, indicators, and program benchmarks relate to one another. Benchmarks or targets that you identify can be also recorded in table 4.

Evaluation Question	Process and Outcome Indicators	Program Benchmarks
Have Spanish-speaking persons been treated appropriately for LTBI or TB?	Number of new Spanish-speaking persons treated by clinic for TB & LTBI between Jan – June.	Increase in the number of Spanish-speaking patients
	Number of times clinical treatment standards (i.e., proper referrals made and test conducted) are met for Spanish-speaking patients	Clinical standards are met 100% of time
	Percent of time that signs and forms are available in Spanish and written for persons with low-literacy skills	Patient education signs and forms in Spanish are available 100% of time; literacy level of materials is at a 6 th grade reading level
	Percent of time that Spanish-speaking staff are present in clinic	80% of time Spanish-speaking staff are available
	Percent of clerks/staff who know how to access translators or certified interpreters	All staff know how to access and use translators or certified interpreters
	Percent of patients who report being treated respectfully	90% of Spanish-speaking patients report that they were treated respectfully

After completing table 4, it can be included in your evaluation plan with explanatory text. Note that it is likely that you will have multiple indicators tied to each evaluation question.

Table 4. Indicators and Program Benchmarks for Evaluation Questions		
Evaluation Question	Process and Outcome Indicators	Program Benchmarks or Targets
1.		
2.		
3.		
4.		

Data Collection

Your plan should include details about collecting the necessary data for each indicator. Use table 5 to describe your data collection plan. To complete this table, consider the following questions for each indicator:

- ❖ What methods will you use to collect the data?
- ❖ Where are the data?
- ❖ How often will it be collected?
- ❖ Who is responsible for collecting the data?
- ❖ How will you handle and store the data?

Note that more than one data source may provide information for each indicator.

Examples of data sources include:

- ❖ Records or charts
- ❖ TB registry and databases
- ❖ Interviews or focus groups
- ❖ Participant observations
- ❖ Other documents

Table 5. Data Collection Plan				
Indicator	Data Sources	Collection		
		Who	When	How

Tools

Tools are the documents or strategies that you will use to collect the data you need. When choosing tools, consider whether the questions you are asking or data elements you are collecting are tied to your indicators.

- ❖ Collect the information you need in the most straightforward way possible
- ❖ Collect only the information you need
- ❖ Use tools that are easy to understand, administer and use, and do not place undue burdens on staff or patients
- ❖ Pilot test tools before using them to collect the evaluation data so that you know that users can successfully use the tool for its intended purpose. Make changes based on your pilot test

Human Subjects Consideration

At this point it is important to consider if your evaluation will require review by your program's Institutional Review Board (IRB). Many program evaluations are exempt from review but this is a consideration when developing your plan.

In your evaluation plan, describe the tools you are using and their purpose. The tools you will use to collect the evaluation data can be attached to the plan as an appendix if you choose.

Evaluation Timeline

A timeline is not required in an evaluation plan but it can be helpful in guiding evaluation activities. Developing a timeline will ensure that all stakeholders are aware of what activities are occurring at any time. It may also help you determine if your evaluation resources will be strained by too many activities happening at any given time. Table 6 is an illustrative timeline that may be useful in your evaluation plan if you choose to use one.

Table 6. Illustrative Timeline for Evaluation Activities				
Evaluation Activities	Timing of Activities for {Year}			
	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr

Justifying Conclusions: Analysis and Interpretation

✧ *This section describes your plan for analyzing and interpreting the evaluation data. Specific components of this section will be determined by your design and methods. However, general guidance for this section is below.*

Analysis

Describe what techniques you will use to analyze your evaluation data. Although your initial analysis plan may be general, you may want to address issues such as:

- What data aggregation systems or software you plan to use
- What statistical methods (if any) you plan to use
- What stratifications (if any) you plan to examine among the data
- What types of tables or figures you may use

Complete Table 7 to describe your analysis plan linking data collection methods to analysis techniques and identifying who is responsible for this analysis. If you need assistance with selecting methods or techniques, www.cdc.gov/eval has many resources available to assist in the process.

Table 7. Analysis Plan	
Data Analysis Technique	Responsible Person

Interpretation

In this phase you will judge your findings against the program standards. In drawing conclusions from the evaluation findings, it is important to consider the context in which the program is operating. It is also important that conclusions be sound, reasonable and objective. Involving the stakeholders in this process will bring insights and explanation to the evaluation findings, thus ensuring the validity of the interpretation and that recommendations based on the findings are relevant. Developing a draft report and sharing it with stakeholders is one method of involving stakeholders in the interpretation process and may be sufficient and appropriate in some cases.

Use worksheet 4 to help you plan what type of stakeholder should be invited to your meeting to interpret the findings. This list is intended to give you ideas and suggestions as to whom you might like to involve in this important process. However, other people should be considered as appropriate.

Worksheet 4. Stakeholders List	
Yes ✓	
	Program managers
	Program staff
	Program administrators
	Health department administrators
	Patients
	Foreign born community
	Community members
	Community-based organizations
	Community planning board
	Business community
	Policy makers
	Health care providers
	Schools and universities
	Other:

In your evaluation plan, explain who will be involved in interpreting the findings and describe the procedures and guidelines you will use to help you interpret the evaluation findings.

Ensuring Use and Sharing Lessons Learned: Reporting and Dissemination

✂ *A reporting and dissemination plan will ensure that evaluation findings will be distributed to those who will make use of the lessons learned from the evaluation. The plan should describe what medium you will use to disseminate the evaluation findings, who is responsible for disseminating the findings, how the findings will be used and who will act on the findings. The purpose of program evaluation is to use the information from the evaluation to improve program operation and enhance its performance. An evaluation does not achieve its purpose if not used. It is helpful to review your stakeholder assessment in developing the reporting and dissemination plan. Use table 8 to indicate how the findings will be distributed and by whom.*

Table 8. Dissemination Plan		
Yes ✓	Dissemination Medium	Responsible Person
	Report	
	Mailing	
	Website	
	Television	
	Radio	
	Newspaper	
	Newsletter	
	Briefing	
	Brochure	
	Meeting/presentation	
	Other:	

In writing this section of your plan, check the reporting and dissemination plan against the stakeholder list you developed earlier and refer to worksheet 3 to ensure that your reports will address stakeholder needs and that the reports will reach them.

Ensuring Use

Throughout the evaluation process you will want to develop mechanisms to ensure that findings are used and changes implemented. Your plan should address how you plan to use your findings, in at least a general way. You will add to the list of uses as your evaluation progresses.

Although not typically something attached to an evaluation plan, the following action planning worksheet can help you anticipate how your findings will be used to improve your program.

Worksheet 5. Action Planning			
Evaluation recommendation:			
Action step(s)	Person(s) Responsible	Timeline	Plans for monitoring results

Appendices

✧ *Appendices to your evaluation plan can include many different items that are too detailed or long to include in the body of the plan. These might include...*

- ❖ *References*
- ❖ *Copies of instruments or tools*
- ❖ *Analysis programs*
- ❖ *Reporting formats*

Appendix A: A Sample Evaluation Plan



In October 2002, health commissioners in the fictional Lull County funded a program to address the rising incidence of TB among the Salvadoran community. The following year, they asked for an evaluation to be done to show whether or not the program was working, and based on this evaluation future program funding will be decided in April. The following evaluation plan, using the template presented in *A Guide to Developing a TB Program Evaluation Plan*, was developed to answer their questions.

TB Support Program

Evaluation Plan for January – March 2004

Prepared by:

Ana Garcia
TB Nurse

Department of Health and Human Service
Division of TB Control & Prevention
Lull County

November 15, 2003

Note: The scope of this evaluation plan is based on a small size program. TB program staff is encouraged to start their evaluation small, focusing on areas or program components where improvements may be needed most.

INTRODUCTION

Tuberculosis was not a major concern in Lull County until in the recent years. According to the county report, an average of 3 cases was reported per year from 1995 to 2001. In 2002, six new cases of TB were identified within three month period. Unlike previous years, the infected suspects were new immigrant Salvadoran men rather than the predominant white population. In response to this epidemic, “TB Support Program” was implemented by the county health department director, Henry Evans, to control and prevent further transmission of TB in Lull County.

Evaluation Goal

The goal of this evaluation is to determine the effectiveness of “TB Support Program” in preventing transmission of TB among Salvadoran immigrants. This evaluation will investigate components of the TB Support Program that are performing optimally and should be expanded and replicated in future initiatives. In addition, this evaluation will help determine the funding needs of TB Support Program for the following year.

Evaluation Team

Our team consists of TB Support program staff and a nurse from the TB clinic who works within the system and can access clinic/program data easily. A member of the county commission was asked to participate on the team to review plans and ensure needs for information are met. Carlos, a leader from the local community who has a background in the social sciences, was also asked to participate to ensure the evaluation is culturally appropriate to the target community.

Table 1. Roles and Responsibilities of the Evaluation Team Members

Individual	Title or Role	Responsibilities
Ana (TB nurse)	<ul style="list-style-type: none">• Lead Evaluator	<ul style="list-style-type: none">• Oversight of all evaluation activities to ensure the evaluation is conducted as planned• Coordinate meetings for the team
Libby (Program manager)	<ul style="list-style-type: none">• Data Analysis	<ul style="list-style-type: none">• Analyze quantitative data• Coordinate the analysis of qualitative data• Ensure implementation of findings
Don (County health commissioner)	<ul style="list-style-type: none">• Stakeholder/advisor	<ul style="list-style-type: none">• Provide support and guidance and dissemination of results
John (Outreach worker)	<ul style="list-style-type: none">• Data collection	<ul style="list-style-type: none">• Gather and review data (QA?)
Carlos (Health outreach projects director, Latin American Association, (CBO))	<ul style="list-style-type: none">• Community liaison	<ul style="list-style-type: none">• Coordinate data collection with community members

I. STAKEHOLDER ASSESSMENT

At the monthly TB program staff meeting, the evaluation of TB Support Program was discussed. The following stakeholders were identified, along with their interests and perspectives and how each stakeholder should be involved in the process. After the meeting, Carlos was also contacted to give perspective on how patients and the community should be engaged. The following table summarizes the plan for stakeholder engagement.



Note that stakeholders can be divided into 3 major categories: persons involved in program operations, persons served or affected by the program, and intended users of evaluation findings. Organize the list of stakeholders to make sure no one is left out.

Table 2. Stakeholder Assessment and Engagement Plan

Stakeholder categories	Interests/perspectives	Role in the evaluation	How to engage
Persons involved in program operations			
<ul style="list-style-type: none"> Libby, John, Ana and other staff 	<ul style="list-style-type: none"> Fear program (and jobs) may be negatively changed See program evaluation as a personal judgment 	<ul style="list-style-type: none"> Defining program and context Identifying data sources Collecting data Interpreting findings Disseminating and implementing findings 	<ul style="list-style-type: none"> Meetings Direct roles in conducting evaluation
Persons served or affected by the program			
<ul style="list-style-type: none"> Patients of the TB clinic 	<ul style="list-style-type: none"> May fear or reject clinic/health system Want better and accessible services 	<ul style="list-style-type: none"> Providing customer perspective Interpreting findings 	<ul style="list-style-type: none"> Survey
<ul style="list-style-type: none"> The foreign born community in general 	<ul style="list-style-type: none"> May be suspicious of outsiders to neighborhoods, especially if illegal immigration is an issue 	<ul style="list-style-type: none"> Providing community context 	<ul style="list-style-type: none"> Inform of findings
<ul style="list-style-type: none"> Other service programs in the area (employers, hospitals) 	<ul style="list-style-type: none"> May or may not be coping with similar challenges 	<ul style="list-style-type: none"> Disseminating findings to community audiences 	<ul style="list-style-type: none"> Inform of findings
Intended users of evaluation findings			
<ul style="list-style-type: none"> Libby 	<ul style="list-style-type: none"> To show effectiveness Use findings to enhance the program 	<ul style="list-style-type: none"> Defining information needed from the evaluation Developing and implementing recommendations 	<ul style="list-style-type: none"> Direct role in conducting evaluation

<ul style="list-style-type: none"> County Health Commissioners 	<ul style="list-style-type: none"> Know if the program is effective: best use county funds 	<ul style="list-style-type: none"> Providing administrative/ funding context Interpreting findings 	<ul style="list-style-type: none"> Don, direct role; others through a meeting
<ul style="list-style-type: none"> Clinical staff 	<ul style="list-style-type: none"> Provide effective and acceptable treatment and care interventions for TB 	<ul style="list-style-type: none"> Interpreting findings Modifying practice (if needed) 	<ul style="list-style-type: none"> Meeting
<ul style="list-style-type: none"> CBOs and community planning board - Carlos 	<ul style="list-style-type: none"> Improve community health , well being 	<ul style="list-style-type: none"> Disseminating findings 	<ul style="list-style-type: none"> Inform of findings

II. BACKGROUND AND DESCRIPTION OF THE TB PROGRAM AND PROGRAM LOGIC MODEL

Need

A culturally competent TB prevention program such as TB Support Program is needed to combat the rise of TB incidence among the Salvadoran immigrant community of Lull County. Newly arrived persons from a high TB incidence country to Lull County are a major concern. Persons with TB disease and infection are not being reached for timely treatment. Consequently, TB cases are found on hospital admission after extensive health damage has occurred and community transmission demonstrated. Some newly discharged TB patients are lost to follow-up. Treatment cost increases along with the rising morbidity, ill-health, and suffering of the community members. The need for immediate attention to TB is great. If the problem is left unattended, backlash against foreign born population is possible.



Most of this description comes from program materials (i.e. grant application, reports and other program promotional materials).

Context

Historically, Lull County has been a low TB incidence area. Recent surge in the number of TB cases has raised concerns in the community. TB prevalence among the large number of newly arrived immigrants was fairly high. Although the need for TB elimination and prevention in this community is great, the capacity and resources needed to address the magnitude of these surging TB issues in Lull County is limited. TB Support program, an outreach program using “lay health advisors” (LHAs) to target new immigrants in the community, is implemented in response to this need. Under TB Support program, Spanish-speaking lay health advisors are to provide directly observed therapy (DOT) and social support in the immigrant community to increase targeted testing and treatment adherence and promote early case finding in the community.

Target Population

The target population for TB Support Program is newly arrived Salvadoran immigrants who cannot speak English, have limited resources, a small pool of family and friends if any at all, and may possibly have legal problems with their immigration status.

Objectives

The goal of TB Support Program is to eliminate TB transmission in the Salvadoran community, improve quality of life, and ultimately, to eliminate TB in Lull County. In order to achieve this overarching goal, program objectives were identified for the first year of the program.

1. Increase percentage of newly arrived, foreign born Salvadoran TB patients who adhere to treatment to 100% by December 2003.
2. Increase the number of newly arrived, foreign born Salvadoran patients being treated for TB or LTBI by December 2003.
3. Increase percentage of Salvadoran community members who understand what to do if someone has a productive cough for 3 weeks or more by March of 2004.

Because the program and problem are new, specific baselines, i.e., how much of an increase can be expected, is unknown.

Stage of Development

The program is relatively new; in operation for less than a year.

Resources/Inputs

Lay health advisors (LHAs), TB staff, funding, community based organizations and community health centers serving the Salvadoran community are key inputs of TB Support program.

Activities

Lay health advisors (LHAs) training, community outreach/education, TB screening/testing, prescribing treatment, and DOT visits make up the major activity categories.

Outputs

As a result of the efforts done in TB Support Program, LHAs were hired and trained, counseling provided, TB outreach/education conducted, test conducted, referrals made, a treatment plan developed, and DOT was administered.

Outcomes

A list of short-term outcomes include: patient's knowledge increased, trust is built, patients accept treatment for TB or LTBI, patients identify contacts and possible source of cases, and patients use TB and other services. Intermediate outcomes: patients adhere to treatment, complete treatment, reduce hospital admissions for TB among Salvadorans, and reduce transmission of TB. Long-term outcomes: Salvadoran patients are healthier; eliminate TB in Salvadoran community, and healthier community.

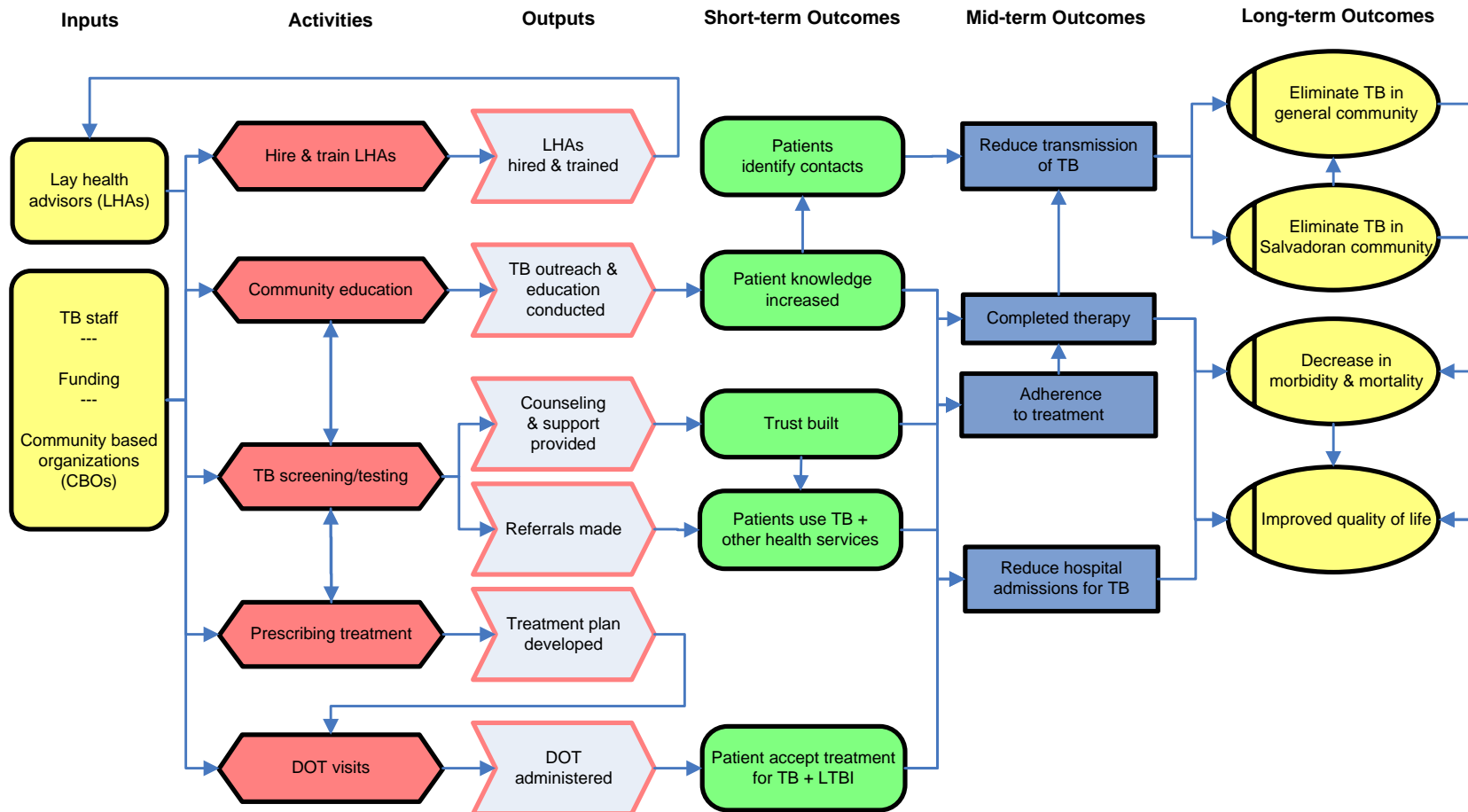


The resources, activities, outputs and outcomes are listed in sequence in the following table. The logic model, after drawing arrows, “fleshes out” how the components link together and interconnected to produce results.

Table 3. Project Description of TB Support Program

Resources	Activities		Outputs	Outcomes		
	Initial	Subsequent		Short-term	Mid-term	Long-term
LHAs of Salvadoran community	Hiring LHAs	LHAs training	LHAs hired & trained	Provide Spanish speaking and culturally competent services for Salvadoran community	Increase utilization of TB services by Salvadoran Community	Eliminate TB in Salvadoran community
TB Staff	Community outreach	Education	TB outreach and education conducted	Increase TB knowledge in Salvadoran community		
Funding			Counseling & support provided	Trust built between health care providers and the Salvadoran community		
Community based organization serving Salvadoran community	TB screening/testing	Referrals	Testing done and referrals made	Early TB and LTBI detection and interventions	Reduce TB transmission	
		Prescribing treatment	Treatment plan developed	Patients identify contacts and possible source cases Patients accept treatment for TB and LTBI;	Increase completion of therapy rate Patient complete treatment (reduce hospital admissions for TB among Salvadorans)	
		DOT visits	DOT administered	Patients adhere to treatment		

Logic Model



III. FOCUS OF THE EVALUATION

Stakeholder Needs

From the beginning, four groups of people were identified as the core users of the evaluation findings. They will be using the findings in different ways and for different purposes. The table below summarizes the users of this evaluation, what information they need or would like to get from the evaluation, and how they intend to use that information to achieve what they need or set out to do.



What the stakeholders need to learn from the evaluation is explored in stakeholder assessment in section I under intended users of evaluation findings. Information from that section can be refined and adopted for assessing stakeholder's needs here.

Users	Need/Want to Know	Uses
County administrators	<ul style="list-style-type: none">• Whether the program is working or not	<ul style="list-style-type: none">• Determine whether the program should be funded to continue or expand its services
Program Manager	<ul style="list-style-type: none">• How to enhance or refine the program	<ul style="list-style-type: none">• Implement change to increase effectiveness of the program
Clinical staff	<ul style="list-style-type: none">• Clinical outcomes	<ul style="list-style-type: none">• Adjust clinical practice if needed
CBO representatives	<ul style="list-style-type: none">• Social health outcomes	<ul style="list-style-type: none">• Advocacy to community

Evaluation Questions

Although the evaluation team generated many possible questions in a brainstorming session, the evaluation team prioritized the following as representing the most important aspects of the program that could be examined at this time.



Note that the evaluation questions do not address all of the program objectives. Priorities must be set based on need for information and resources available.

To determine if the program has been implemented as planned:

- ❖ Has appropriate (Spanish-speaking with a good understanding of Salvadoran culture) staff been recruited?
- ❖ Has the staff (all TB program employees) been trained appropriately (in TB practice and cultural competency)?

To determine if the program is meeting its objectives:

- ❖ Have more Salvadoran persons been tested and treated appropriately (clinically sound, in Spanish, in a culturally sensitive manner) for LTBI or TB?
- ❖ Are Salvadoran patients adhering to treatment (not lost to care and follow-up)?

Evaluation Design

The evaluation team decided to use multiple data sources because the program was small (few number of people served), the need to obtain information to improve the program was high, and in-depth information was needed. No control or comparison group seemed appropriate. The team discussed reviewing records for Salvadoran patients in the past and comparing these data to current program information, but realized that it would be difficult since data in the files were incomplete. The decision was made to assess the data against the benchmarks the program has set. Further, it was decided that the data collected for this evaluation would serve as a baseline for later evaluations.

Resource Consideration

Resource available for evaluation is limited.

Manpower consists of 1 full time staff member who is only able to devote a few hours a week to the evaluation. The other evaluation team members are able to devote only a limited amount of time to the evaluation. However, several of the evaluation team members work together and most stakeholder groups meet regularly.

Thus, some evaluation work can be done as

part of existing routines. Personnel records, training curriculum and clinical records are available as existing data sources.



Assessing the treatment adherence rate of Salvadoran patients will tell us whether the program is reaching its objective. However, the logic model shows that additional data may be needed to provide us with important information and insight into *why* the objective is achieved or not, and what can be done to improve the program.

Additional data collection measuring patients' perception will be needed to understand whether patients feel trust is built with their health care providers and whether their TB knowledge has increased.

Evaluation Standards

The evaluation team agreed that the evaluation data will be useful, and should be feasible to collect. Propriety will be addressed through consent form and all data will be kept confidential.

While the group agreed that there may be some issues regarding record keeping or patient willingness to answer honestly, the accuracy of the strategy was judged to be acceptable.

IV. GATHERING CREDIBLE EVIDENCE: DATA COLLECTION

Indicators

The evaluation team recognized that the terms used the evaluation questions, e.g., "appropriately," needed to be operationalized, and the following list of indicators show the team's decisions. Since several program objectives were vague, the evaluation team had to determine benchmarks that seemed reasonable, given the limited information available. Each member of the evaluation team informally talked with other stakeholders to ensure consensus.

Table 4. Indicators and Program Standards for Evaluation Questions

Indicators	Program Benchmarks
Has appropriate staff been recruited? (Evaluation Question)	
<ul style="list-style-type: none"> • Number of qualified (bilingual/ bi-cultural) staff 	<ul style="list-style-type: none"> • Two LHAs of different gender are on staff, both speak Spanish and are familiar with the Salvadoran culture
Has the staff been trained appropriately?	
<ul style="list-style-type: none"> • LHAs received appropriate/adequate training in TB, interviewing and DOT • Other clinic staff were trained in working with LHAs and TB competency strategies for Salvadorian culture 	<ul style="list-style-type: none"> • All staff attended training • Training covered essential topics
Have more Salvadoran persons been treated appropriately for LTBI or TB?	
<ul style="list-style-type: none"> • # Salvadoran persons treated by clinic for TB or LTBI • Clinical treatment standards • Signs, forms available in Spanish • Clerks/staff know to access translators/LHA • Patient's attitude of trust for TB program staff recommendations 	<ul style="list-style-type: none"> • Each month of program operations has shown an increase in the number of Salvadoran patients • Clinical standards met • Patient education signs and forms in Spanish • Staff knows how to access and use translators • 90% of Salvadoran patients report they believe what their provider tells them about TB and trust their provider's recommendations.
Are Salvadoran patients adhering to treatment?	
<ul style="list-style-type: none"> • Attendance at DOT and clinic visits 	<ul style="list-style-type: none"> • 100% Salvadoran TB and LTBI patients who miss an appointment are immediately rescheduled and keep appointment; no one is lost to care

Data Collection

The evaluation utilizes several methods of data collection in various ways: interview, survey, observation, and record review. Staff interview will be conducted to assess knowledge and behavior in accessing translators and LHAs. Written survey (in Spanish) will be administered to the patients in the clinic waiting room to assess patients' perception of the clinic (access to care, hours, acceptable environment/staff) and their comfort level (attitudes and beliefs) about the staff (a compromise due to limited funding). Observation will be conducted to assess staff behaviors and language used in TB awareness signs. Lastly, review of records, charts and training materials will be conducted. Table 5 summarizes the data source and data collection methodology that will be used to gather evidence for evaluation.

Table 5. Data Collection Plan

Indicators	Data source	Data Collection Method
Number of qualified (bilingual/bi-cultural) staff	<ul style="list-style-type: none"> • LHA staff • Personnel records 	<ul style="list-style-type: none"> • Observe presence of staff • Review records if staff not present → Carlos → Feb.4-10
LHAs received training in TB, interviewing and DOT	<ul style="list-style-type: none"> • Training attendance records 	<ul style="list-style-type: none"> • Review records of training sessions and attendance, materials presented → John → Feb.6 -15
Other clinic staff were trained in working with LHAs and cultural competency	<ul style="list-style-type: none"> • Curriculum 	
# Salvadorian immigrants treated by clinic for TB or LTBI	<ul style="list-style-type: none"> • Clinic records, interviews with staff 	<ul style="list-style-type: none"> • Review records for country of origin and date of arrival in US, notes in file, ask staff to identify from client list → Libby → Feb.8 -15
Clinical treatment standards (calendar of standard appointment dates based on initiation of TB drugs)	<ul style="list-style-type: none"> • Clinic charts 	<ul style="list-style-type: none"> • Chart review → TBA
Signs, forms available in Spanish	<ul style="list-style-type: none"> • Signs and forms 	<ul style="list-style-type: none"> • Observation → Staff → Feb.3 -25
Clerks/staff know to access translators/LHA	<ul style="list-style-type: none"> • Staff knowledge and behaviors 	<ul style="list-style-type: none"> • Interviews/observations → TBA
Patients feel they can trust the TB program	<ul style="list-style-type: none"> • Patient perceptions 	<ul style="list-style-type: none"> • Survey sample of patients (forms and drop box in clinic waiting room, in Spanish, no identifiers asked) → Feb. 1-28
Attendance at DOT and clinic visits (appointment system and missed appointment follow-up)	<ul style="list-style-type: none"> • Program visit records 	<ul style="list-style-type: none"> • Review records, noting if any patients are lost of care → TBA

Plan Timeline

Table 6. Illustrative Timeline for Evaluation Activities

Evaluation Activities	Timing of Activities for Jan – Mar. 2004			
	Jan	Feb	Mar	April
Evaluation planning	+			
Data collection		+		
Analysis/interpretation			+	
Report/dissemination				+

V. JUSTIFY CONCLUSIONS: ANALYSIS AND INTERPRETATION

Analysis

Both quantitative and qualitative methods will be used to analyze the data. Simple counts of frequency will be use for quantitative data analysis. Qualitative methods such as content analysis will be used to review training curriculum, patient charts and records for themes and patterns.

Table 7. Analysis Plan	
Data Analysis Technique	Responsible Person
Quantitative – frequency/counts	Libby
Qualitative – content analysis	Libby, Ana and staff

Interpretation

Stakeholders including the county administrator, program manager/staff, LHAs, medical staff and CBO representatives will be included in a scheduled meeting to interpret the findings. The data from the evaluation will be compared to the established program benchmarks. Stakeholders and those involved in program operations will be given an opportunity to justify the findings and make recommendations accordingly.

VI. ENSURE USE AND SHARE LESSONS LEARNED: REPORT & DISSEMINATION

Dissemination

Evaluation finding will be disseminated via various channels. Presentations will be given at the program staff meeting and to the health care providers at regular staff meetings. A short report will be drafted and a presentation offered for the county health commissioners. An article will also be added to the newsletter the health department periodically compiles. Carlos will also write an article to go in a local Spanish newspaper and offer to present at community meetings.

Table 8. Dissemination Plan		
Yes ✓	Dissemination Medium	Responsible Person
	Presentations at staff meeting	Libby
	Presentation to health care providers	
	Report and briefing to county administrator and commissioners	Ana
	Article in HD newsletter	Libby/John
	Article for community newsletter, briefings to community groups	Carlos

Use

Libby, the program manager, and staff will use the findings to refine program strategies for TB Support Program. The findings will help guide the program to focus on areas that are most crucial for effective service delivery. Health care professional will use the finding to improve their medical practices in serving Salvadoran community. County health department administrators, led by Don, will use the findings to determine the future funding distribution for the program. The community liaison, Carlos, will use the findings in advocacy efforts. Finally, findings from this evaluation will be used for future evaluations.

Appendix B

Writing SMART Objectives

In order to be most effective, objectives should be clear and leave no room for interpretation. S-M-A-R-T is a helpful acronym for developing objectives that are *specific, measurable, achievable, relevant, and time-bound*.

An example of an S-M-A-R-T objective for TB is:

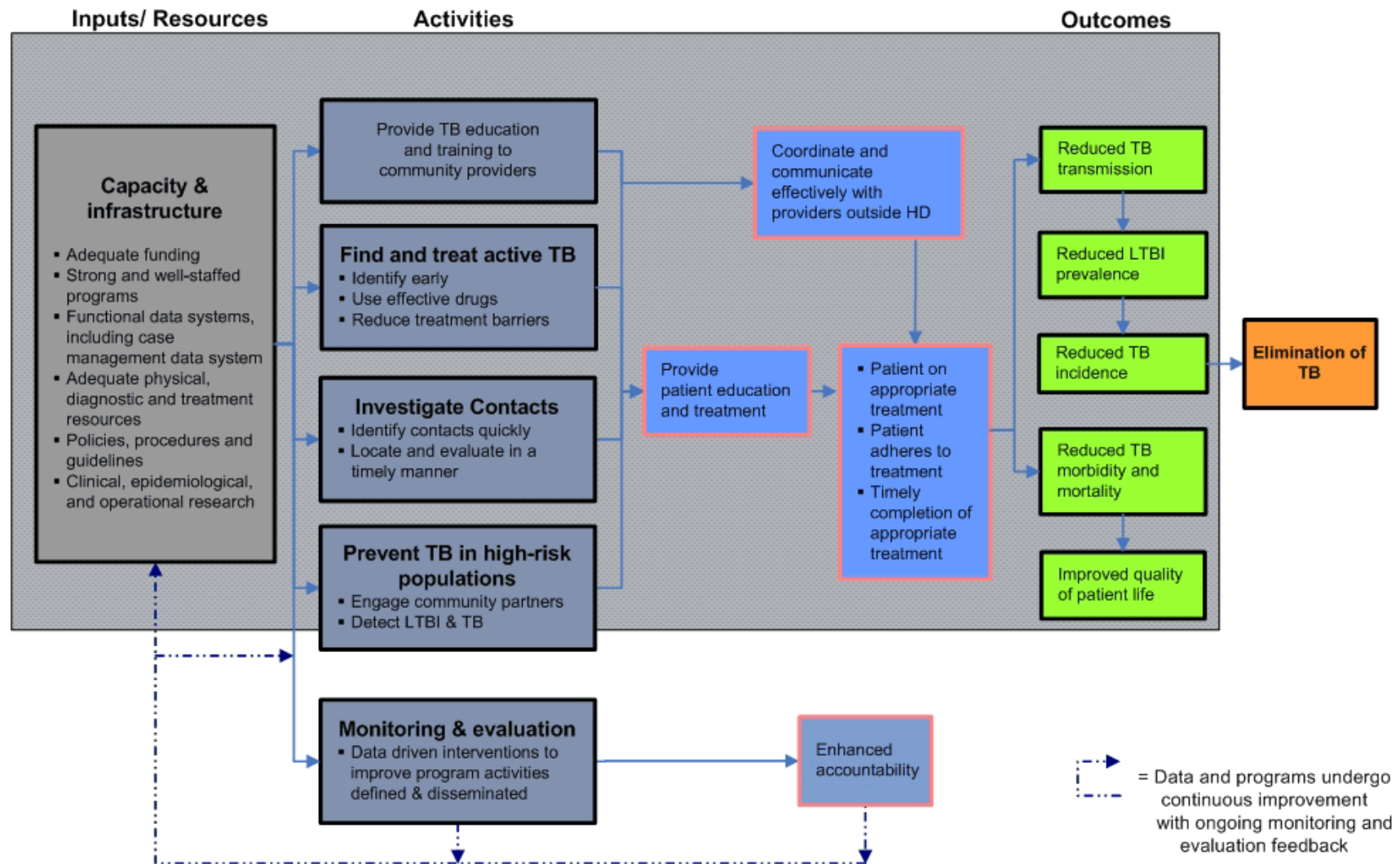
In County X, increase the percentage of adult patients with non-rifampin -resistant TB who complete treatment in less than 12 months (as measured by cohort review) from 80% to 90% (the national goal) by 2014.

The objective is *specific* because it identifies a defined event: adult TB patients will complete treatment in less than 12 months. The objective is *measurable* because it specifies a baseline value and the quantity of change the intervention is designed to achieve: from 80% to 90%. As in the example, it is worthwhile to note whether there is an existing data source for the objective. The objective is *achievable* because it is realistic given the 10-year time frame. The objective is also *relevant* because it relates to the elimination of exposure to non-resistant TB. Finally, the objective is *time-bound* because it provides a specified time frame by which the objective will be achieved (from 2004 to 2006).

A Tool to help write SMART objective

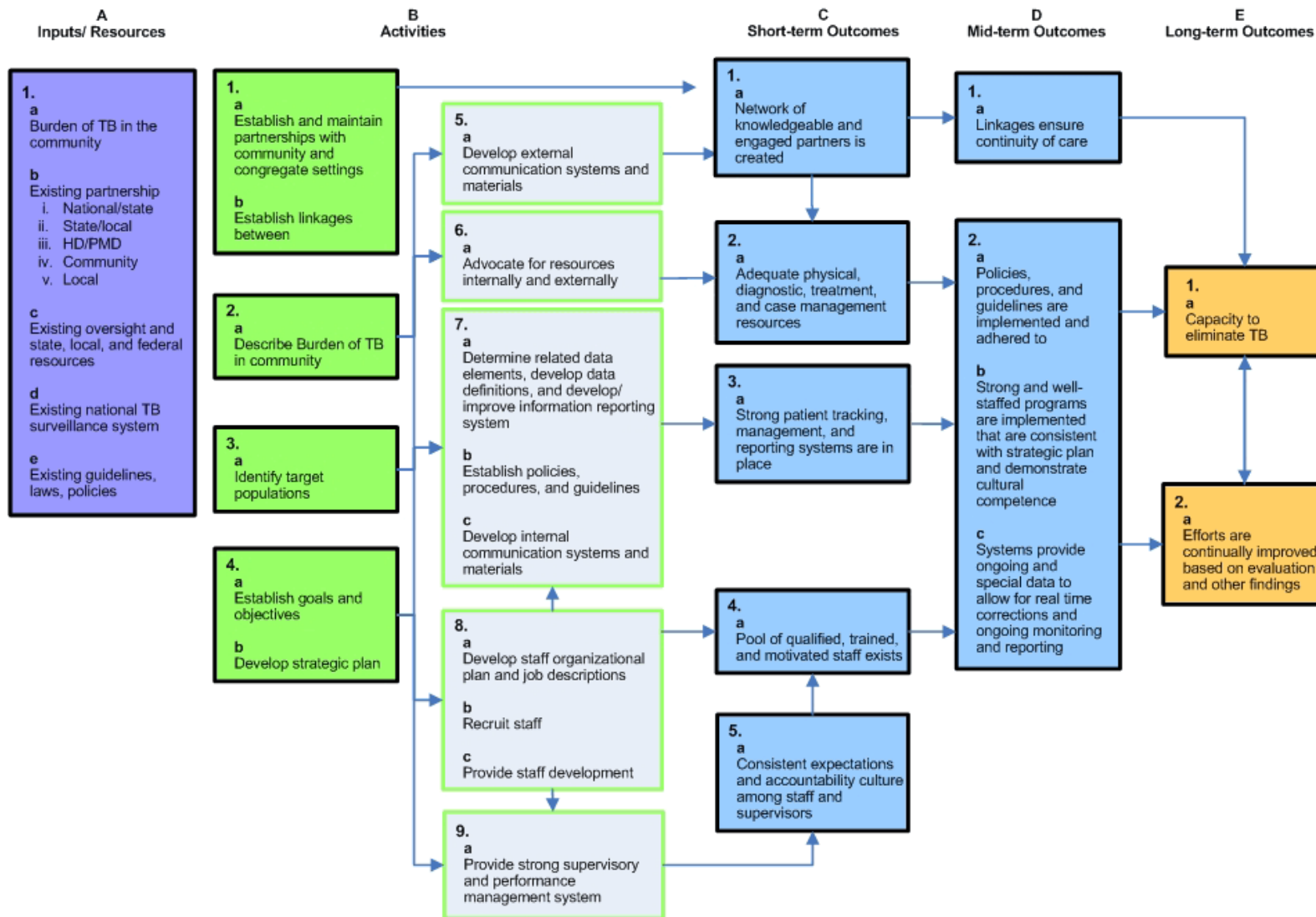
Objective	Increase percentage of adult patients with non-resistant TB who completed therapy (within 12 mos.) from 80% to 90% by 2006.						
	VERB	METRIC	POPULATION	OBJECT	BASELINE MEASURE	GOAL MEASURE	TIMEFRAME
Breakdown	Increase	Percent	Adult patients with non-resistant TB	Completion of therapy (w/in 12 mos)	80%	90%	By 2006

Appendix C: Tuberculosis Program Logic Models



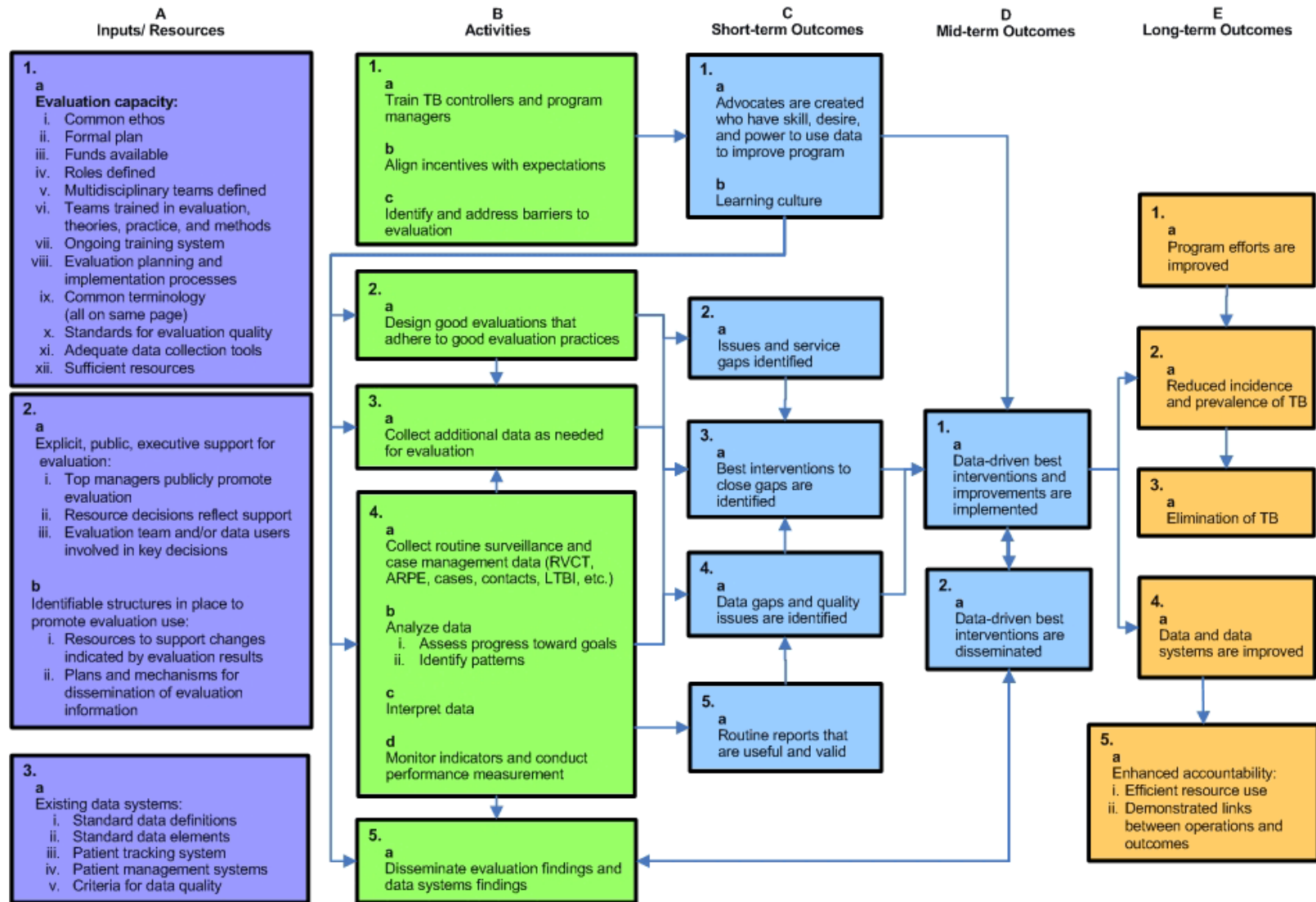
I. Capacity and Infrastructure to Eliminate TB

Goal: Develop capacity and infrastructure for TB elimination.



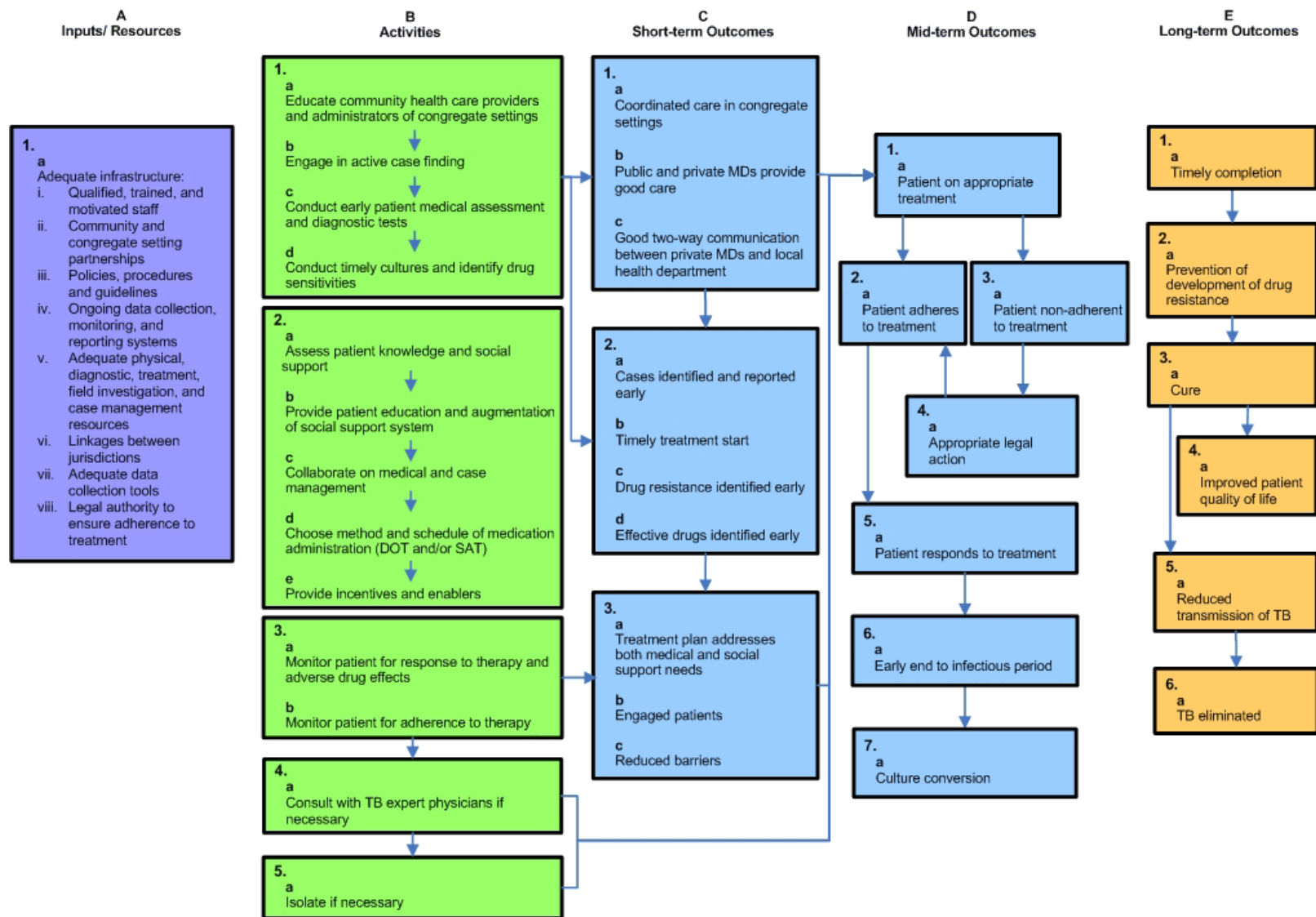
II. Evaluation Capacity

Goal: Promote and enhance active program monitoring and self-evaluation among TB control partners at each administrative level.



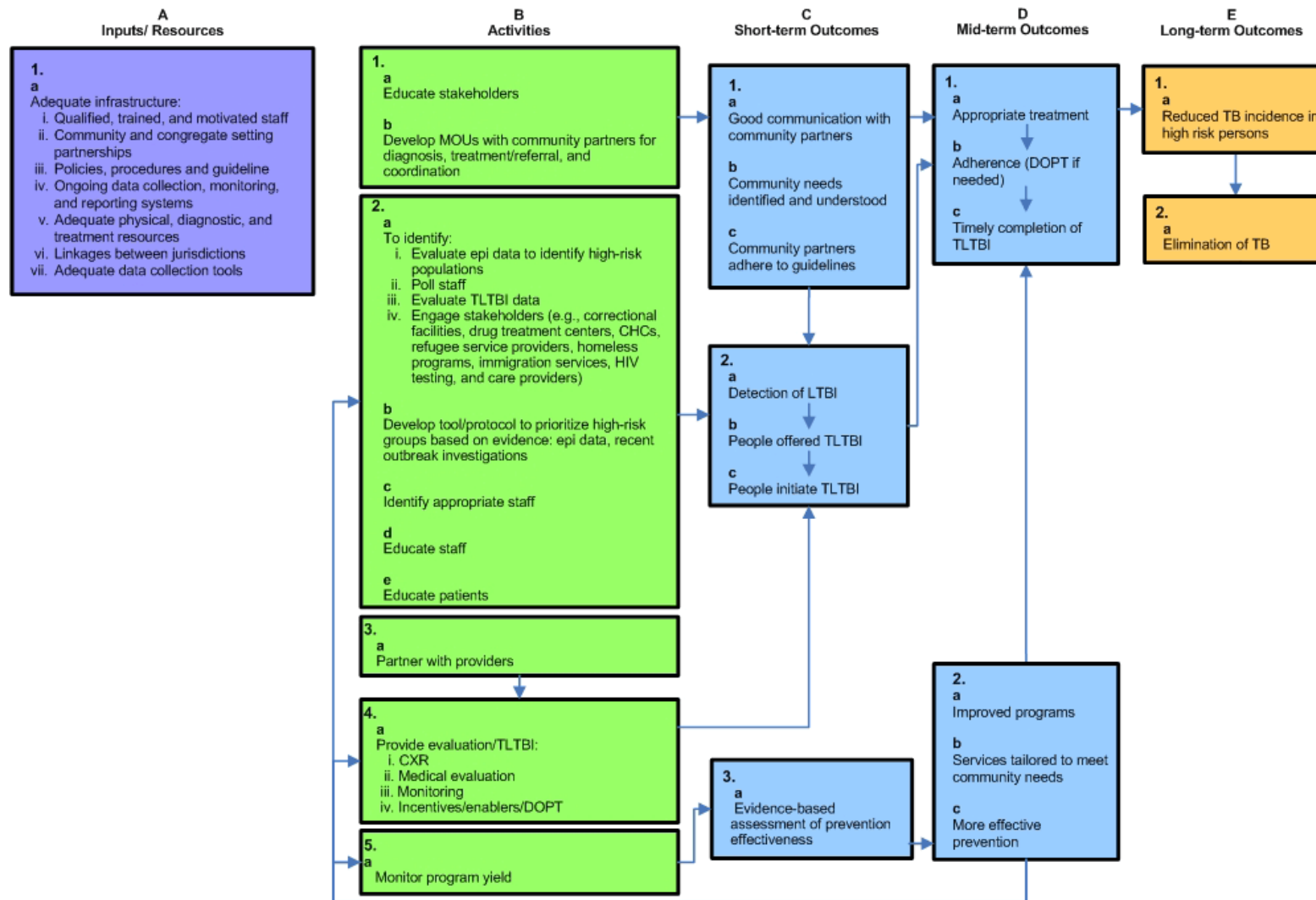
III. Timely Completion of Appropriate Treatment

Goal: Complete TB treatment among persons with TB disease within 12 months of diagnosis.



IV. Prevent TB in High Risk

Goal: Prevent TB among high-risk populations (through targeted testing and treatment).



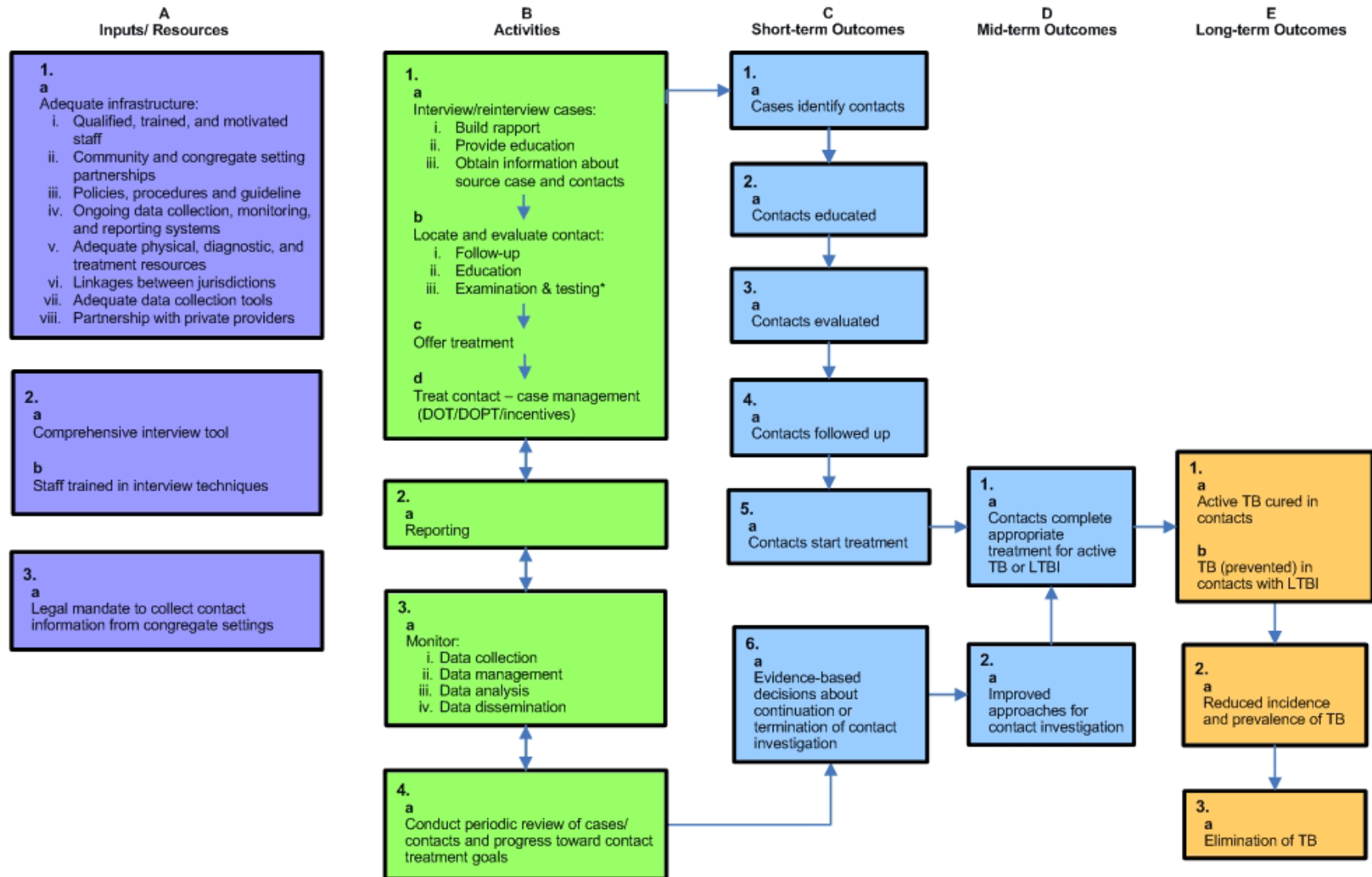
Strategies: Identify and prioritize high risk persons; targeted testing and treatment for LTBI; develop partnerships with providers treating high risk groups

Note: Infection control is another strategy for preventing TB that will be addressed in another model

Notes: LTBI = latent TB infection; TLTBI = treatment for LTBI; DOPT = directly observed preventive therapy; CXR = chest X-ray; MOU = memorandum of understanding; CHC = community health center

V. Contact Investigation

Goal: Prevent TB among contacts to cases (by finding and testing contacts for TB and LTBI, and then treating infected contacts to completion).



Appendix D

Sample indicators

- Proportion of verified TB cases reported to the local health jurisdiction within 1 working day from treatment start date.
- Demonstrated ability (organization, staffing, resources, and facilities) to carry out the core components of a TB control program.
- Number of TB cases identified per 100,000 people.
- Proportion of cases with complete data on key variables (homelessness, injecting drug use, non-injecting drug use, excess alcohol use)
- Proportion of pulmonary or laryngeal TB cases > 12 years of age with sputum culture obtained.
- Proportion of TB cases started on the recommended 4-drug regimen.
- Proportion of sputum smear-positive pulmonary or laryngeal TB cases initiating treatment in < 7 days of specimen collection.
- Proportion of sputum culture-positive TB cases with documented conversion to sputum culture-negative within 90 days of initiation of treatment.
- Proportion of TB cases for whom DOT is recommended who receive DOT throughout the course of treatment.
- Proportion of TB cases for whom DOT is recommended who receive inappropriate SAT throughout the course of treatment.
- Proportion of TB cases who complete treatment in < 12 months.
- Proportion of TB cases who default prior to completing treatment.
- Proportion of sputum smear-positive cases with at least one contact identified.
- Proportion of identified contacts to smear-positive cases who complete evaluation for TB infection or disease.
- Proportion of infected contacts to pulmonary cases who started treatment for LTBI.
- Proportion of infected contacts to pulmonary cases started on treatment for LTBI who complete treatment.
- Number of TB cases in children 0-4 years old.
- Number of persons who die with TB.

*As developed by California's Tuberculosis Indicators Project